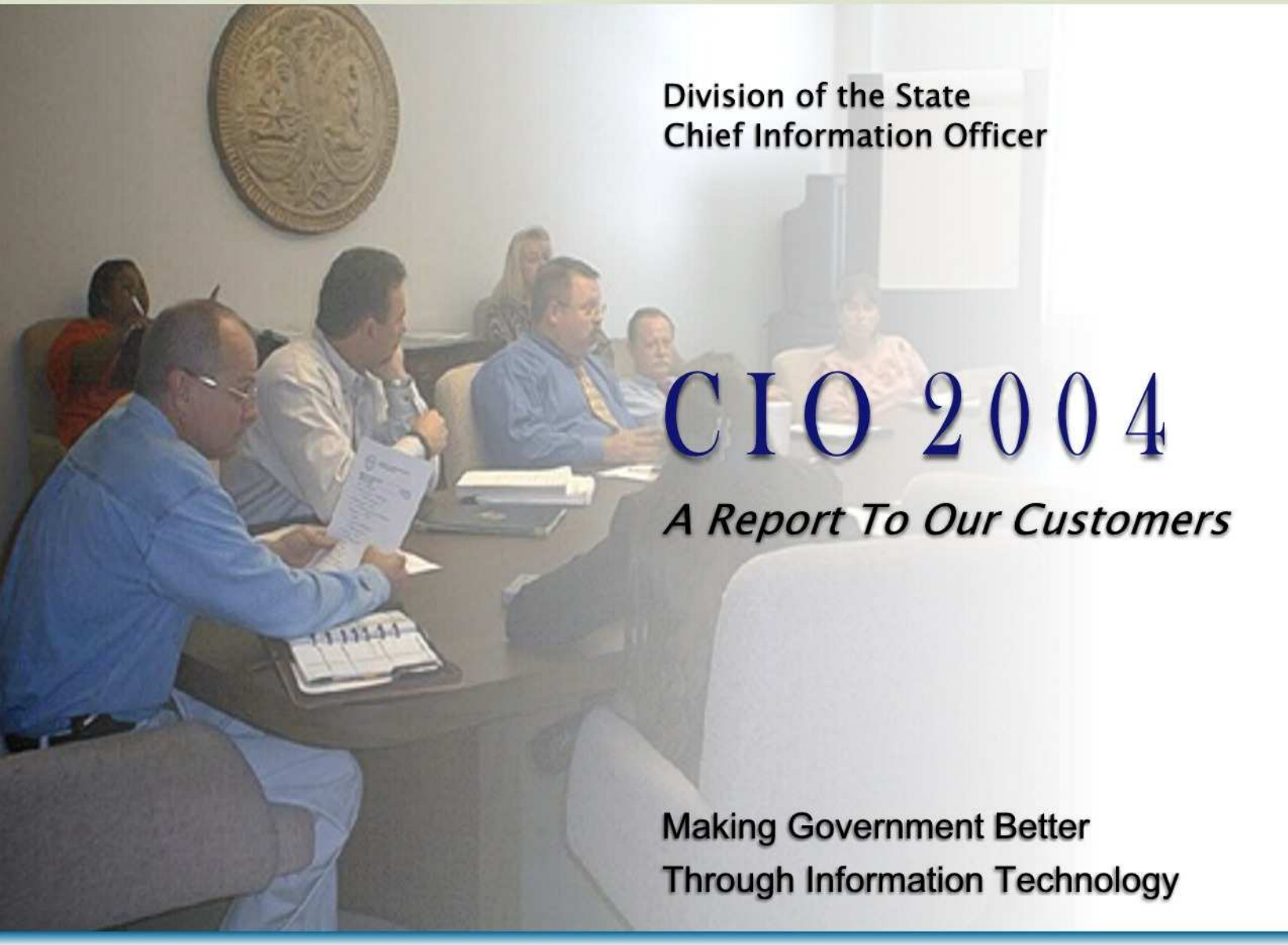
SOUTH CAROLINA
Budget & Control Board

Connecting People and Information



Division of the State
Chief Information Officer

CIO 2004

A Report To Our Customers

Making Government Better
Through Information Technology

www.cio.sc.gov

Message

...from the Chief Information Officer

On behalf of the Division of the State Chief Information Office, I am pleased to present the "2004 Report to Our Customers." Though we faced many challenges during the fiscal year, this report reflects our commitment to provide best value services for our customers through collaboration and partnership.

The report offers a glimpse of some of the enterprise initiatives and major projects we undertook in partnerships with our customers. We list the ways in which we attempt to keep our customers involved and informed with the CIO and of new industry technology. We discuss the success of the first "Open House," which allowed our customers to view some of the services they receive.

We are always looking for more efficient ways to manage our costs, so that we can pass those savings to you. As indicated in this report, we were able to reduce our rates for mainframe processing, local voice services, and long distance services this year. We are improving our strategic planning efforts and methods of communicating our direction. I invite you to continually review the information on cio.sc.gov for the latest updates.

We reorganized several sections of the CIO to better align resources with our business objectives and to, ultimately, improve the quality of services delivered to our customers.

Thank you for your support throughout the past year. As we enter another, I am sure we will face new challenges that will lead to new opportunities for technological advances and improved statewide services. We look forward to a future of collaboration and innovation. Please feel free to contact me at any time.

Best Regards,

Larry A. Johnson
Chief Information Officer

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EXECUTIVE SUMMARY

The Division of the Chief Information Officer (CIO) is committed to delivering high quality information technology (IT) services that our customers need to serve State Government constituents and citizens. The CIO strives to improve our services and processes to keep pace with the changing environment of information technology. This executive summary shares highlights of projects and accomplishments for FY2004.

Security – In an initiative to educate state, county, local, and private citizens on the need to protect South Carolina's critical information infrastructure, the following actions were taken: 1) The SC Information Sharing and Analysis Center was formed to disseminate information concerning security to government entities across the state. 2) Using the Carnegie Mellon's Operationally Critical Threat, Asset, and Vulnerability Evaluation (OCTAVE) risk assessment process, a self assessment methodology, the CIO was able to identify security threats and technical vulnerabilities and, as a result, develop a mitigation plan to protect the CIO's infrastructure. 3) The Architecture Oversight Committee approved and published a State Information Technology Security Policy to protect the IT assets and resources for the State of South Carolina.

The CIO disaster recovery and business continuity plan was reviewed and refined with the recovery of mainframe services and mainframe IP connectivity as the major focus.

Enterprise Web Portal and eCommerce Upgrade – A contract was awarded for the "Enterprise Web Portal" and the portal infrastructure upgrade plan is underway. The CIO will be working with the contractor and our customers to refresh the State Web Portal (myscgov.com) to meet all of the needs of our citizens and government agencies.

South Carolina Enterprise Information System (SCEIS) – This fiscal year, the Department of Mental Health (DMH), acting as a pilot, implemented the imaging capability of the SCEIS statewide accounting system. The implementation of SCEIS will be done in phases with the actual timing depending on the completion of blueprints for the business areas of financials, procurement, human resources/payroll, and budget. The blueprints, planned for completion in FY05, will define the agencies and functions to be implemented in each phase.

South Carolina Enterprise Architecture - The Architecture Oversight Committee, the governing body of the South Carolina Enterprise Architecture, has adopted 18 IT standards that govern the acquisition and use of information technology. A checklist of standards that agencies are asked to review before submitting technology items in their plan is now available.

Information Technology Planning and Management Services – The CIO is piloting a Business Case Analysis methodology to determine if a project is functional and effective and whether certain projects will be required to have a methodology.
To increase the number of successful technology projects, the Project Management Office (PMO) adopted and published a policy requiring certain projects to be overseen by a Certified Project Manager.

IT Management Services completed Assessments with several agencies that evaluated the life-cycle of selected applications; the adequacy of an agency's technical, network, and hardware infrastructure; the adequacy of an agency's security/disaster recovery systems; and where an agency should focus its IT spending.

IT Management Services, along with the School for the Deaf and Blind, developed the Virtual Chief Information Officer (CIO) Program which involves agencies contracting with the CIO to have a person with CIO information and technical skills come on site for a period of time to help them review, analyze, frame, and implement their information technology needs.

Information Technology Management Office – The Information Technology Management Office (ITMO) designed a solution-based procurement that streamlines the "request for proposal" process, reduces the probability of a protest, and results in a more effective contracting process. Using the solution-based procurement in the Enterprise Web Portal solicitation, the State was able to evaluate a variety of solutions and business models to determine the most advantageous for the State.

Since joining the Western State Contracting Alliance, ITMO has successfully lowered the cost of personal computers and peripherals for our customers. Other recent statewide term contracts negotiated by ITMO include: vendor management, Internet-based reverse auction services, remanufactured laser toner cartridges, and network hardware equipment.

Customer Services – The Help Desk implemented the Enterprise version of Intuit's TrackIt with new tools and features to increase the efficiency and effectiveness of services to the agencies. With the customer in mind, the Help Desk uses Electronic Mail Announcements to notify them of scheduled maintenance and a Wallboard display to provide real-time statistics on service calls.

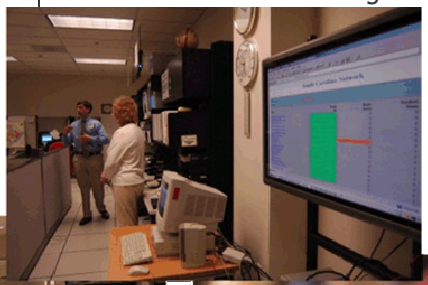
The Help Desk created 734-INFO, a telephone recording that informs our customers of the current status of the CIO's network.

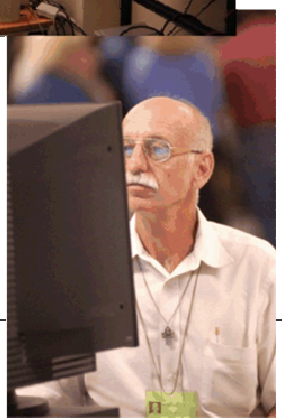
The Customer Work Order Fulfillment (CWOF) system, now in full operation, provides process-oriented order processing and invoicing to our customers with a thorough account of the charges they incur each month.

The eLeave system has been enhanced with a new version release. The number of users of the system more than doubled during FY2004.

Data Center Services – Data Center Services continues to increase mainframe processing power while maintaining the same costs to our customers. In FY 2004, MIPS (million instructions per second) increased to 711 from 660 MIPS in FY2003. Rates for mainframe services were reduced during FY2004.

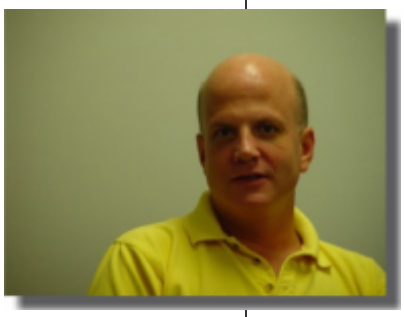
The Output Management Services facility is fully operational and provides a full range of document services from online document viewing to the





delivery of the document to state agencies and to the United States Postal Service. One State agency reported a 69% reduction in monthly billing after migrating from printing to on-line viewing.

The storage area network continues to be populated as individual server storage is migrated from local server storage to accommodate the increased demand for storage.



To improve delivery of information to the end-user and to share network access, the CIO has a shared infrastructure in place to support browser-based applications development.

The CIO is in the planning process of implementing a Microsoft .Net applications hosting environment. This shared infrastructure will allow customers to run their applications in a consistent, reliable, and cost effective environment.

The CIO automated tape library allows agencies to back up data off-site in real time through the network to the State Data Center.

Applications Development - Applications Development Services developed an Information Systems Development Methodology (ISDM) process designed to bring consistency among applications, make the tracking of the development process easier, and better assure that the final product meets the customer's needs.

Various applications were developed this year to help our customers achieve more efficient processes and deliver improved citizen services. Among those, a web application was developed for the State Election Commission, as part of the HAVA requirements, to show the public their absentee and provisional ballot status.

Since HAHT, the original development platform for Web applications, is no longer supported, a number of HAHT applications are being migrated to run on WebSphere.

Network Services - The CIO's application for an Internet2 Sponsored Education Group Participant (SEGP) was recently accepted and will provide low cost access to the higher speed Internet2 backbone for K-12s, Technical Colleges and other public and private colleges.

The initial stage of the K-12 high speed wide area network expansion initiative is complete with 13 school districts having participated. School districts who did not participate in the first stage have been notified that the next stage is ready to begin and will use the same funding strategy as the first.

The CIO enabled the State backbone network to support Multiprotocol Label Switching which eliminates problems with traffic engineering, VPNs, Layer 2 transport, and any to any connectivity.

A contract was recently awarded for H.323 Internet Protocol (IP) Video services. Several state agencies and educational institutions are using IP Video to conduct ongoing collaborative planning sessions, instructional classroom training, and administrative meetings. Agencies currently using H.320/ISDN should be aware that Bell South has discontinued H.320 video conferencing support for NEW locations.

A Web Network Management (WebNM) tool was implemented to monitor the CIO's information technology infrastructure and to help forecast network bandwidth and application needs.

The Palmetto 800 System permits all state government agencies and local public safety entities to communicate with each other within the same 800 MHz radio band across South Carolina. The System expedites the response of users in every situation from daily operations to natural disasters, as was recently

demonstrated in Georgetown County during Hurricane Charley and tropical storm Gaston.

The CIO assisted the South Carolina Law Enforcement Division's (SLED's) Wide Area Network (WAN) users with conversion to a shared high-speed communications network to allow communications between law enforcement user agencies and SLED.

Voice Services - The CIO successfully implemented the S8700 upgrade as part of MUSC's business continuity plan to ensure ongoing patient care in the event of a disaster that could cripple telecommunications.

Communication – Staying Connected with our Customers – The CIO uses a variety of one-way and two-way methods to communicate with our customers. One-way methods include the customer newsletter, published quarterly; the annual accountability report; and our web site. Two-way methods include user meetings and participation in conferences and seminars. This year the CIO held its first "open house" which was an opportunity for agencies to visit the CIO facility and talk with staff.

Operating Efficiently - Gartner Analyzes the CIO
The CIO contracted with the Gartner Group to assess three of its major services: Mainframe Data Center services, Local Voice services, and Long Distance Voice services. These services were compared with both private and public organizations whose key workload characteristics were similar to the CIO.

The cost per MIP for the Data Center is 3% lower than the workload peer group and 18.8% lower than the public administration group.

Through cost management and efficiencies, long distance rates have been reduced five times over the past seven years from an average of $.105 per minute in FY 1998 to an average of $.053 per minute in FY 2004. The Long Distance cost per minute was within one percent of the workload peer group and 19.2% lower than the industry peer group.

Local Services rates have been reduced three times in the past five years from an average of $23.23 per extension in FY 2000 to an average of $13.58 per extension in FY 2004. The cost per minute is 62% lower than the workload peer group and 50.3% lower than the industry peer group.

Again this year, the results were favorable with the CIO being rated **"Best in Class"** for its local services operation.

BEST IN CLASS

Gartner Group study rates CIO "Best In Class" again this year for its local services operation.

EXECUTIVE SUMMARY

2003/2004 Honor Roll

Medal Winners for Olympian Feats

GOLD

- ✓ Lower Long Distance Rates
- ✓ SLED WAN Project Execution
- ✓ AOC Approved 18 Technology Standards
- ✓ Portal Refresh Contract Awarded
- ✓ K-12 Network Expansion Contract
- ✓ Procurement Funding (WSCA, etc.)

SILVER

- ✓ Live with CWOF
- ✓ Output Management
- ✓ Virtual CIO Project (School for the Deaf and Blind)
- ✓ HAVA Upgrades to Voter Registration
- ✓ Notification Improvements (734-INFO, email, etc.)
- ✓ Accountability Report, Newsletters

BRONZE

- ✓ Charleston S8700 Upgrade
- ✓ Security Policy Published
- ✓ SAP Imaging Live at DMH
- ✓ WebNM Implementation
- ✓ Haht Migration
- ✓ South Trust Move
- ✓ Internal Risk Assessment (OCTAVE)

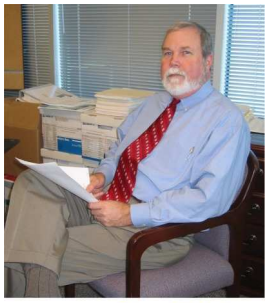
Profile
...Division of Chief Information Officer

The Division of the CIO (CIO) is a major operating unit under the State Budget and Control Board (B&CB). In this capacity, the CIO performs a number of functions related to the provision, use, and administration of information technology in government.

The purpose of the CIO is to set the direction for the State's use of technology and to make government better through the use of information technology. There are three deputy areas within the Division of the State CIO: IT Planning and Management Services, Operations, and Support Services.

Chuck Fallaw
Deputy CIO IT Planning & Management Services

IT Planning and Management Services, formerly known as the Chief Technology Officer, oversees the concept-ualization and development of South Carolina government's long-term strategic information technology plan. IT Planning and Management Services 1) sets the State's course with regard to the next generation of technology; 2) oversees working committees of the State's IT professionals which establish architecture standards and policies; 3) identifies new enterprise initiatives that generate a return on investment to State Government and its customers; and 4) prepares a "Statewide Information Technology Plan" for presentation to the CIO and the General Assembly.



Tom Fletcher
Deputy CIO Operations

The CIO's **Operations** section provides network and computing infrastructure to agencies and end-users. The management of the various technologies and services is provided by Data Center Services, Network Services, Applications Development Services, Customer Services, and Advanced Technical Services. The Data Center Services provides mainframe and mid-range servers and desktop support. Network Services provides management and operations of statewide voice, data, and video networking technologies. Applications Development Services supports agency requests for systems development and maintenance. Customer Services provides a single interface into the Operations area of the Division of the CIO to manage customer requirements, orders, and problems. Advanced Technical Services, which was recently restructured under the Operations section, is responsible for the security policies and infrastructure protection issues related to the State's information technology infrastructure.

Two additional changes were made during the year in Operations. The first involved dispersing the Order Processing team among other functional areas. With the new features of CWOF in production and the ending of parallel processing, the few remaining functions of that team were moved to other areas of critical needs.

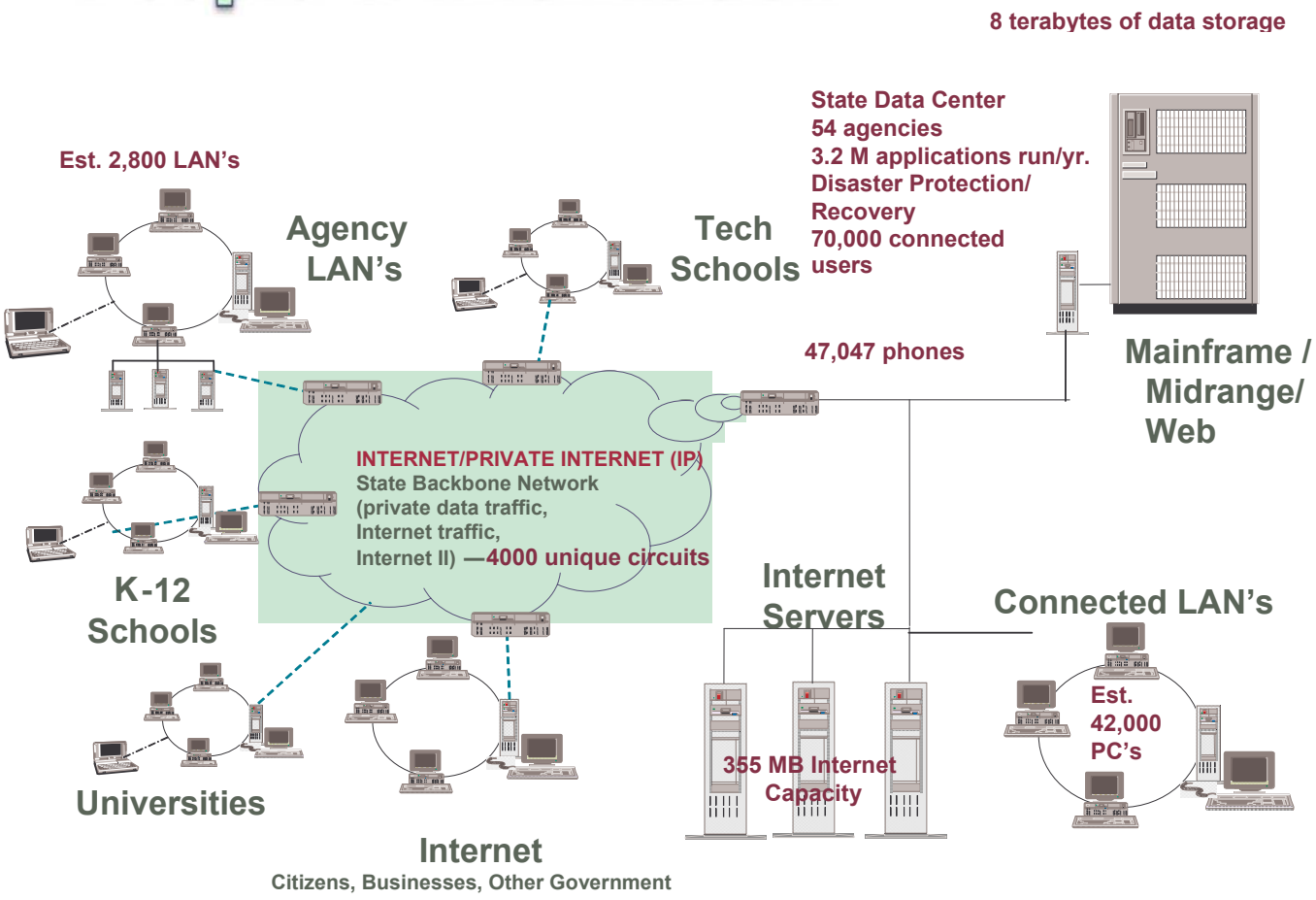
The other change made was to better align remote location personnel under their technical specialties by having staff in our Charleston and Wade Hampton Building offices report to the same chain-of-command as their Broad River Road counterparts.

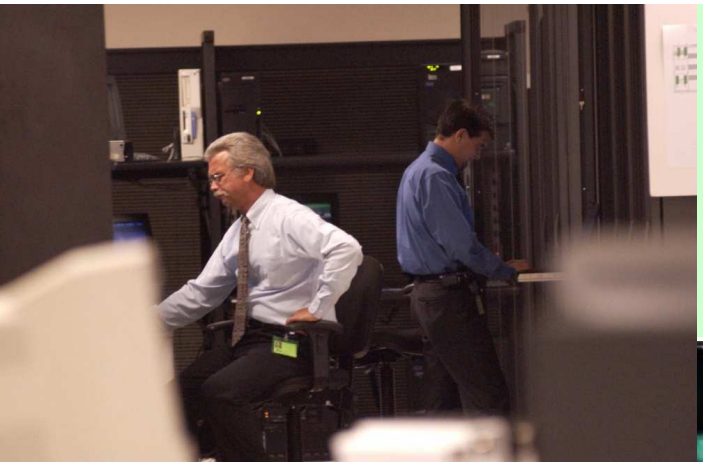
Barbara Teusink
Deputy CIO Support Services

The CIO's **Support Services** section provides accountability and oversight of the division's financial and human resources and assistance to customer agencies in the area of IT procurement services. Support Services also coordinates our strategic planning process and creates accountability reports for the Division.

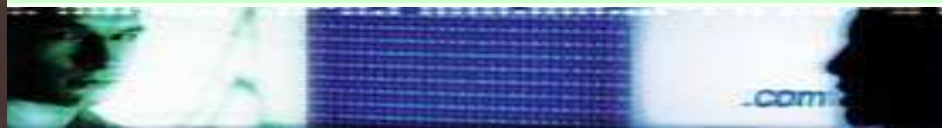
A major change in Support Services this year was the consolidation of our external communications efforts into a focused team called Stakeholder Relations. The team will work with agencies, including local governments, to introduce them to our services, handle complex proposals, and meet new needs. The team has begun meeting with agency senior management to gather feedback to be shared throughout the CIO organization.

Connecting People & Information





► The CIO is committed to delivering high quality services that our customers need to serve state government constituents and citizens. These services are provided through our information technology infrastructure such as LANs, WANs, mainframe computers, storage area network, open systems infrastructure, telephones, and PCs. The graphic above is an illustration of the state's information technology resources.



ENTERPRISE SECURITY

www.secure.sc.gov

Secure South Carolina is an education and awareness initiative jointly developed by the South Carolina Joint Terrorism Task Force, the Federal Bureau of Investigation (FBI), the United States Secret Service, and the CIO. This partnership is committed to educating state, county, local and private citizens on the critical need to secure their cyber infrastructure. Secure South Carolina is dedicated to the timely dissemination of information to all of our constituents which reduces our vulnerabilities to cyber-attacks and increases our responsiveness to threats such as hurricanes, tornados, or floods.

Jim MacDougall
Director, Advanced Technical Services

South Carolina Information Sharing and Analysis Center

Currently, the CIO is in the process of developing a SC Information Sharing and Analysis Center (SC ISAC) as a means to share information across the State. The SC ISAC will be used as a vehicle to disseminate information to agencies. The SC ISAC will be connected to a National ISAC infrastructure, also being formed, which includes the FBI, Department of Justice, and the Office of Homeland Security.

The CIO is forming the SC ISAC using a portion of the Homeland Security Cyber Security Grant awarded to the CIO. This grant will be used to provide education to **SC Computer Security Incident Response Team (SC CSIRT)** members as well as to provide tools necessary to monitor and protect the State's critical information infrastructure.

SC CSIRT is now being formed and seeks qualified technical staff to support their needs. The SC CSIRT Public Sector Team will be made up of 20 to 30 subject matter experts appointed by their agencies from across the State.

Visit our web site at secure.sc.gov for more information about this and other security issues. The site is open to the public and represents a variety of information concerning Internet protection.

Operationally Critical Threat, Asset, and Vulnerability Evaluation (Octave)

The CIO adopted the Carnegie Mellon's OCTAVE® risk assessment process, a self-assessment methodology, to evaluate the State's critical information technology infrastructure and has conducted a pilot evaluation of one of its network management systems. The evaluation, conducted in April 2004 by the OCTAVE team, offered dividends in terms of hardening the security of its already-protected internal network.

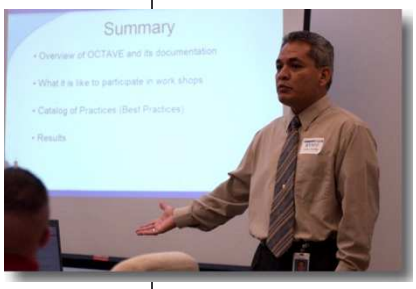
The evaluation began by identifying the areas of concern associated with the CIO's implementation of its network management system. The team categorized concerns into four threat types: human actors using network access, human actors using physical access, system problems, and other problems.

The categories helped establish the main security premise that the CIO must protect

the network from inside and outside actors who deliberately or accidentally cause any of the following adverse security outcomes: disclosure, modification, loss, destruction, or interruption. Consequently, the team identified the security requirements to address the confidentiality, integrity, and availability of the network.

Next, the evaluation concentrated on identifying technical vulnerabilities. The team reviewed the network components and developed objectives to gain a valid picture of the network's security. Examining the results, the team determined the business impact of the vulnerabilities to the CIO's reputation, customer confidence, financial status, and productivity.

Finally, the team took into consideration all of the above and created a mitigation plan. The mitigation plan covered the four threat types and led to a Network Management Security Plan embracing current and future business needs as well as integration into the business continuity program.



Security risk assessments using the OCTAVE method is now a new service offered by the CIO for traditional assessments as well for agencies facing HIPAA requirements.

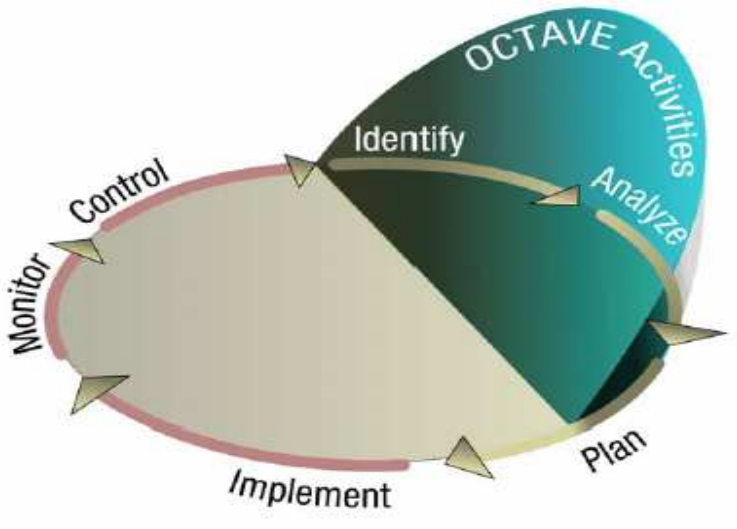
State Information Technology Security Policy

A State Information Technology Security Policy, approved by the Architecture Oversight Committee, was published and establishes a statewide security policy for the protection of IT assets and resources for the State of South Carolina. The policy applies to agencies, commissions, and boards that receive, expend, or disburse State funds or incur obligations for the State. The policy can be found on our web site at www.secure.sc.gov

secure.sc.gov

OCTAVE

The CIO adopted the Carnegie Mellon's OCTAVE® risk assessment process, a self-assessment methodology, to evaluate the State's critical information technology infrastructure. Security risk assessments using the OCTAVE method is now a new service offered by the CIO for traditional assessments as well for agencies facing HIPAA requirements.



Enterprise Web Portal & eCommerce Upgrade

Developed in 2000, MySCGov.com serves as an entry point to online government within the state of South Carolina. MySCGov.com classifies information by subject matter and provides links to the appropriate agency web pages. It also provides some online transaction services including a credit card transaction engine for processing eCommerce activities. These services have become an integral part in citizen-to-government interaction.

However, the current portal does not offer many of the services critical to citizen-centric government such as:

- Content management capabilities for effectively managing ownership, deployment and content of Internet Web displays
- A comprehensive search engine to enable timely and effective location of information
- Effective performance infrastructure to ensure a reliable, available and serviceable environment for these mission critical applications
- A robust, state-of-the-art payment processing engine that supports a variety of payment processing alternatives

Most critically, the application platform upon which MySCGov.com was written, Haht, is no longer supported by its manufacturer. Additionally, there is a lack of redundancy for the MySCGov.com site that substantially increases the risk of downtime for these mission critical applications.

Consequently, in an effort to move toward citizen-centric government, the CIO, through the competitive procurement process, awarded a contract that includes the services mentioned above and the migration of existing ecommerce and portal applications from the Haht platform. Development of the business plan and the portal improvement plan are underway.

The upgraded portal will not only include a new look and feel, but will also provide a robust and highly-available portal infrastructure that can be leveraged by all state agencies. Hundreds of applications deployed in other states may be customized to meet South Carolina's needs. The contract includes a results-oriented marketing strategy to inform citizens and visitors of eGovernment services.

Overall services provided include:

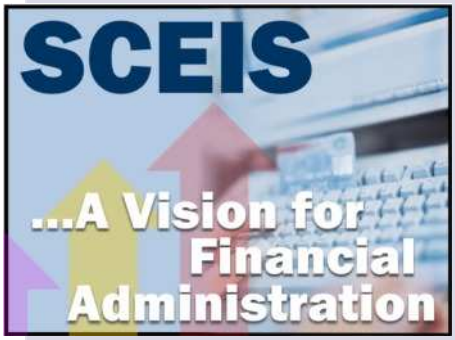
- Faster development of new online services
- Single system logs and reports on all transactions: All Services; All Payment Methods; All Channels
- Better accounting and auditing
- Departmental staff can focus on their transaction data
- Enterprise managers can get "big picture" view of the governmental portal usage

The CIO looks forward to working with the contractor and our agency partners to make South Carolina's "Gateway to Government" the best in the nation.

SC Enterprise Information System

The CIO, along with the Comptroller General's Office, acquired legislative approval for funding a statewide business blueprint for a common statewide administrative system, the South Carolina Enterprise Information System (SCEIS). In 2002, the CIO partnered with the Comptroller General's Office and the Department of Mental Health to implement the procurement, financial, and document management components of SCEIS. This fiscal year, DMH implemented imaging capability. DMH continues to utilize its legacy Human Resource and Payroll systems for employee management and payroll functions.

The implementation of SCEIS will be done in phases. The actual timing depends upon completion of business blueprints for each of the following areas: financials, procurement, human resources/payroll, and budget. The plan envisions implementation to be complete over a six-year period, with the implementation of central state government functions to be followed by agency implementations in phases. The blueprints, planned for completion next fiscal year, will define the agencies and functions to be implemented in each phase.

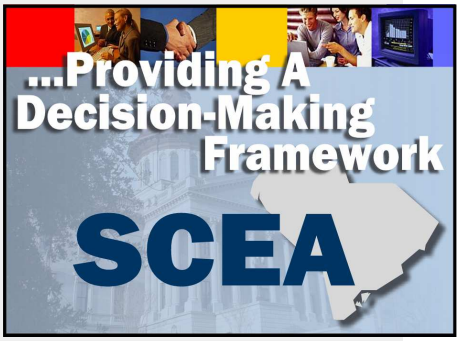


SCEIS

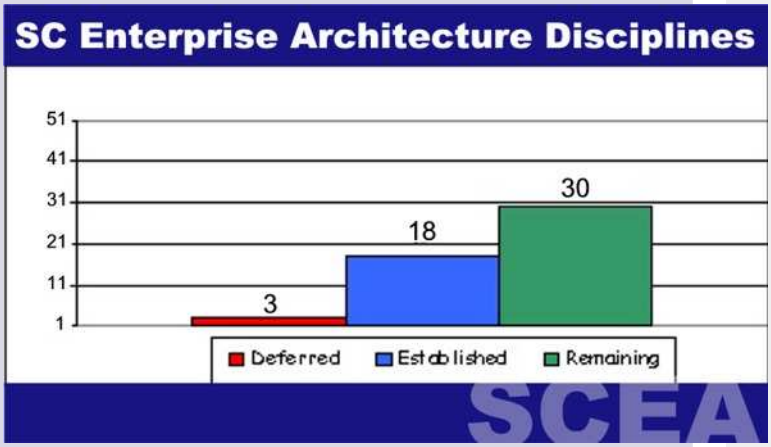
SC Enterprise Architecture

The CIO embarked on a project in May 2002 to create a statewide technical architecture to provide a framework for making strategic technology investment decisions on a cost effective, enterprise basis that meets the diverse business needs of agencies in the executive branch of state government. To achieve that end, the Architecture Oversight Committee (AOC), was established in May 2003.

The AOC, the governing body of the SC Enterprise Architecture, is composed of nineteen members and alternates, representing all state agencies. Additionally, forty-seven percent of state agencies have staff serving on the SC Enterprise Architecture committees and subcommittees. The SC Enterprise Architecture taxonomy is comprised of 51 disciplines or technologies. Each discipline is divided into six domains, or groups of related technologies, that include the major technology components utilized by most state agencies. Six domain subcommittees, composed of technical experts from across State government, have been established to develop recommendations concerning the technical architecture for each discipline within the domains. During FY2004, the Architecture Oversight Committee has reviewed and adopted 18 standards of the 51 disciplines.



SCEA



► **Deferred Disciplines** (No Footprint in SC)
- Customer Relationship Management
- Supply Chain Management
- Unified Messaging

► **Established Standards**
- Authorization/ Access Control
- Firewalls – Desktop & Perimeter
- Client Operating Systems
- Collaborative File Formats
- Desktop Hardware
- Desktop Productivity Tools
- Dumb Terminals
- Email Services
- Enterprise Resource Planning (ERP)
- Geographic Information Systems (GIS)
- Hardware – Switches & Routers
- LAN Topologies
- LAN Wiring
- Laptop Hardware
- Mainframe Hardware & OS
- PDA Operating Systems
- Security Policy
- WAN/LAN Protocols

► **Remaining Disciplines**
- See Website at www.cio.sc.gov

In support of the AOC's decisions, the Information Technology Planning Office (IT Planning) now includes a check to ensure compliance with the adopted standards as a part of its IT Plan evaluation. The standards can be found on the CIO's web site at www.cio.sc.gov

Business Case Analysis

The SCEA as described above is one of the three processes IT Planning uses to enhance the management of information technology. Business Case Analysis and Project Management Oversight are the other two.

The Business Case Analysis provides a framework for agencies to use to assess costs, benefits, and risks of proposed projects. IT Planning is piloting the business case analysis methodology for a few select projects to determine the methodology's functionality and effectiveness. www.cio.sc.gov

Project Management Oversight

Project Management Oversight is a policy requiring oversight of a project by a certified project manager under certain criteria. If the agency's IT plans include a large, enterprise or multi-agency project or a project of a high-risk, high-cost, or otherwise critical nature, the project will require a certified project manager.

The Business Case Analysis methodology template and specific factors determining whether a project falls within the scope of the Project Management Oversight policy can be found on the CIO web site at www.cio.sc.gov.

IT Project Management

According to the 10th edition of the annual CHAOS report from The Standish Group (2004), 15% of all technology projects fail and 51% meet the "challenged" description, meaning that they are over time, over budget, and/or lacking critical features and requirements. The Project Management Office (PMO), established in April, 2002, assists agencies in reducing their failure rate by:

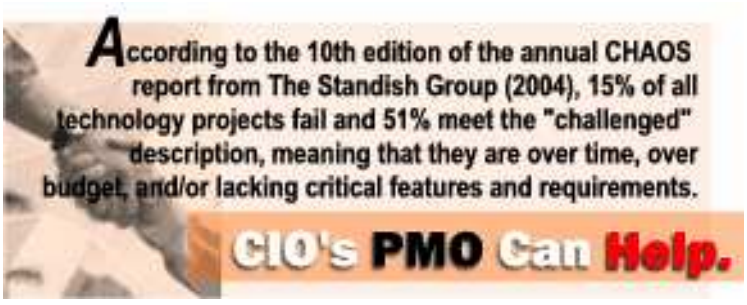
- Offering education/training programs to increase State government project management skills
- Establishing criteria for and certifying State government project management competency for both individuals and agencies administering IT projects
- Monitoring the progress of selected information technology projects based upon criteria such as size, cost, complexity, criticality, multi-agency involvement, and risk
- Providing daily, on-site project management support for agencies when in-house project management capabilities may be limited

A number of state agencies assisted the PMO in its efforts to develop and refine its project management office strategy by participating in committees on the IT Project Management Methodology, IT Project Management Training and Certification, and the Role of the State PMO.

The PMO is currently developing an "abridged" IT project management methodology to be used by agencies for small and minor technology projects. The PMO is also developing a multi-tiered curriculum and certification strategy for State employees seeking training and certification as "associate" or "professional" SC State government project managers. Additionally, the PMO encourages agencies to use project management "best practices" in support of all their projects, not simply their multi-agency and major technology projects.

The PMO published a project management policy and established and maintains an IT project management methodology. The PMO policy, templates, tools, and other information can be found at the CIO Web site at www.cio.sc.gov.

Training and Certification Program – The development of a project management training and certification program is near completion. The program is being developed by the CIO with the input from an advisory council representing state agencies, colleges, and universities. The program will provide training opportunities for State employees in the use of tools and techniques specified in the State's standard project management methodology. The goal of the program is to have staff trained at each agency with the skills to effectively manage all IT projects without regard to size or complexity.



Agency-Requested IT Assessments

In 2004, the Office of Information Technology and Management Services introduced a program entitled Agency-Requested IT Assessments that establishes a baseline of the current IT assets: Applications; Hardware; Data; and Organization; and evaluates the "gap" between the current state of these assets and the agency's strategic and technology objectives. These Assessments can be used to properly plan IT investment strategies, to identify strategic and tactical IT initiatives, and to set budget priorities. An example of a recently completed Assessment is the CIO's evaluation of the life-cycle of an agency's selected application. In assessing the application, the Office of Information Technology and Management Services considered transition and renewal approaches, and the return on investment.

Other areas of IT assessments that have been completed include:

- Adequacy of Technical, Network, and Hardware Infrastructure
- Adequacy of Security/Disaster Recovery Systems
- Where the agency should focus its IT spending

Virtual CIO Program

The Office of Information Technology and Management Services, working with the School for the Deaf and the Blind, developed a Virtual CIO program. This program involves a contractual relationship between an agency and the CIO to provide a resource with CIO knowledge and skill for a period of time.

Recent Virtual CIO engagements include:

- Review of an agency's business vision as a pre-requisite to formulate a sense of how IT could best aligned with that business vision
- Assessment of an agency's technology assets
- Analysis of fit/alignment of an agency's external and internal business and instructional requirements with current IT capabilities
- Analysis and refinement of an agency's current IT policy, strategy and objectives
- Evaluation of compliance of an agency's IT assets with the State's Enterprise Architecture
- Development of several approaches for shared/consolidated IT resources among small agencies
- Agency specific operational recommendations for improved technology-enabled service delivery, to include outsourcing as a possibility
- Identification of a portfolio of business improvement initiatives and their technology enablers
- Identification of quantified performance targets and performance indicators within a performance management regime
- Option assessment, prioritization and risk analysis
- Development of an overall transition strategy and roadmap for improved IT business alignment
- Recommendations to fill an agency's IT positions on a full-time or part-time basis

Information Technology Management Office (ITMO)

Solution-Based Procurement

To provide a more effective and efficient method to acquire highly complex technology solutions, ITMO designed the "Solution-Based Procurement." The solution-based procurement streamlines the solicitation development process, reduces the probability of a successful protest, and results in a more efficient contracting process. It is as simple as defining the problem to be solved along with the current environment and letting the vendors propose their most technologically appropriate solutions.

ITMO used the solution-based procurement design in the Enterprise Web Portal solicitation. Rather than provide extensive specification requirements for the development of a new web portal, the CIO provided information on the current (where we are now) e-commerce portal, MySCgov.com, the CIO's project goals, objectives, and priorities (where we want to be), and asked interested vendors to propose how to accomplish the CIO goals and objectives and meet the State's portal needs. Consequently, vendors were not limited in their proposed solutions but were encouraged to offer innovative technical models and business plans. As a result, the solution-based procurement method enabled the State to evaluate a variety of solutions and business models to determine the most advantageous for the State.

Western State Contracting Alliance (WSCA)

Since joining WSCA, a cooperative purchasing group, ITMO has lowered the costs for personal computers and peripherals for state agencies and political subdivisions. In FY2004, the discounts offered through the WSCA contract saved state agencies and political subdivisions an average of 3% or $2.4 million on the purchases of personal computers and peripherals.

Vendor Management

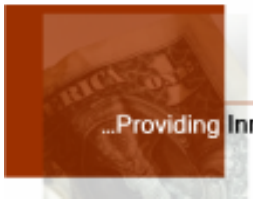
To make the process of acquiring IT professional services more efficient and effective, ITMO is in the process of implementing an online solution using a vendor manager. A full range of services covering staff augmentation, applications development, and project management, technical and managerial consulting services will be managed online using the services of a vendor manager. Staff augmentation contracts have been awarded and will be the first stage of the services to go on line next fiscal year.

Other Statewide Term Contracts

Internet-Based Reverse Auction Services – The Internet-based reverse auction contract is a competitive bidding solution that will enable the State to save money on goods and services purchased through the reverse auction method. Reverse auctions are fixed-duration bidding events in which buyers post their purchase requirements on line and approved suppliers place lower and lower bids against one another until the event is closed.

Remanufactured Laser Toner Cartridges – The remanufactured laser toner cartridge contract allows agencies the flexibility to purchase products based upon quantity discount/match remanufactured laser toner cartridges for Hewlett Packard and Lexmark printers. The contract prices are "not to exceed" prices; therefore, vendors may offer, and agencies may accept, prices below those listed on the contract price list. Vendors will pass on an additional cost savings to customers who purchase five (5) or more assorted remanufactured laser toner cartridges.

Network Hardware Equipment – Equipment manufactured by Avaya, Cisco, Enterasys, Hewlett Packard, Nortel and 3Com are represented on this contract with excellent discounts from all the manufacturers. The result will be significant cost savings to the State.



ITMO
...Providing Innovative Procurement Services
...Saving the State Money

Customer Services

...Providing a single point of contact

The CIO Help Desk, the single point of contact to resolve customer challenges, is responsible for monitoring network health, firewall status, server integrity, and microwave towers on a 24x7x365 basis. Agents are completely accessible to customers via telephone at 896-0001, toll free at (800) 922-1367, or by email at ciohelpdesk@cio.gov.

TrackIt

The CIO Help Desk also serves as a hub for trouble ticketing for all CIO-supported customers. To accommodate the expanding customer base, both in size and complexity, the CIO implemented the Enterprise version of TrackIt. TrackIt 6.0 will provide a wealth of new tools and features designed to increase the efficiency and effectiveness of our business processes. Some of the benefits include:

- Detailed and up-to-date customer profile information
- Service Level Agreements
- Automated problem escalation to management
- Improved internal and external statistical reporting
  - Systematized trouble ticketing and requests for service to ensure a more efficient work flow
  - Enhanced level of organization guarantees faster processing of requests for service and problem resolution

Electronic Mail Announcements

The Help Desk sent 196 electronic mail announcements of scheduled maintenance to our customers, advising them of what was happening, when it was happening, who would be affected, and which vendor would be performing the service.

Wallboard Display

In an effort to further improve response to our customers, the CIO Help Desk implemented a Wallboard display which provides timely information where it is most critical. Abandoned call rate, speed of answer, calls in queue, and number of agents available, are all vital to the performance measures of customer service at the CIO Help Desk. The Wallboard provides a clear visual representation of Help desk performance in real-time. CIO Help Desk agents and managers monitor the Wallboard continuously to ensure excellence in customer service on a 24x7x365 basis.

734-INFO

The Help Desk created a telephone recording system, 734-INFO, that allows our customers to check the status of the CIO's network. A call to this telephone number at any time, day or night, will give our customers a recording with information regarding network or telecommunications outages or any service disruptions as reported or detected by the CIO Help Desk.

An example of what a customer might hear when calling 734-INFO is: "At 8:35 a.m., the CIO Help Desk reports that the DennisSW1 is non-operational. Customers are unable to connect to the Internet. For up-to-date information on this developing occurrence, please call this number again later."

Customer Work Order Fulfillment (CWOF)

WORK ORDERS SUMMARY TOTALS FOR THE YEAR

	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Total for the year
Calling Card	445	266	444	372	553	292	287	388	395	366	249	318	4,375
Consulting Ser.	1	0	0	0	0	0	0	0	0	0	0	0	1
Fiber Ser.	1	0	1	3	0	0	0	0	1	0	1	1	8
G3r Sw.	1	2	4	4	3	0	1	3	9	30	46	17	120
Inventory Only	95	71	103	78	74	46	68	69	95	96	110	131	1,036
Microwave Ser.	1	1	1	0	0	0	1	0	45	0	3	0	52
Net. & Tel. Ser.	1	2	2	1	3	0	0	0	0	0	0	1	10
Network Ser.	147	51	100	83	74	87	67	127	175	112	143	211	1,377
Other Ser. Req.	109	60	100	85	94	151	73	184	196	293	139	154	1,638
Software Only	1,229	1,089	1,300	1,206	1,116	1,181	882	1,081	1,301	1,034	1,334	1,173	13,926
Telephone Ser.	1,508	870	1,014	1,341	1,040	1,054	1,177	636	1,069	1,030	1,120	1,068	12,927
Trouble Ticket	513	482	770	506	407	378	545	389	569	449	485	612	6,105
Total	4,051	2,894	3,839	3,679	3,364	3,189	3,101	2,877	3,855	3,410	3,630	3,686	41,575

Report Printed on 9/2/2004

► The Customer Work Order Fulfillment (CWOF) system is now fully operational, replacing the legacy system, TIGER. There were more than 41,000 work orders entered into this system over the past fiscal year. Account Management worked with many agencies on the new work order and invoice system to ensure customer satisfaction. The CWOF system allows the CIO to re-organize into a more process-oriented fashion. The chart above details the "Work Order Summary Totals for the Year" for CWOF.

eLeave Update

eLeave is a simple, easy-to-use, secure system that protects the social security numbers of employees. The eLeave system eliminates the use of paper, reduces processing time, and saves money.

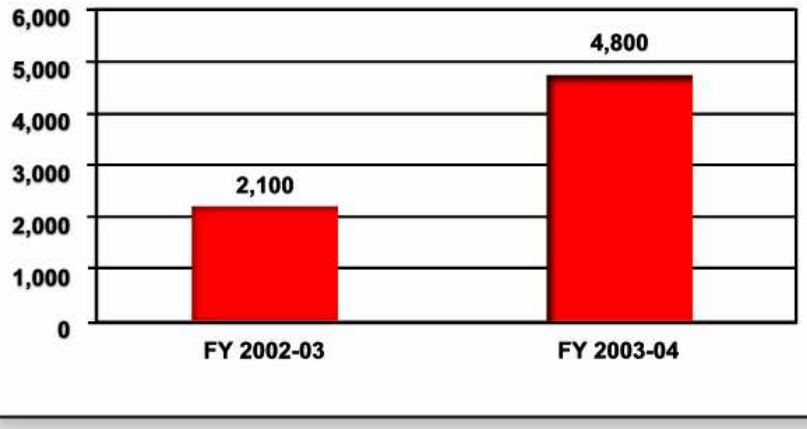
Using the eLeave system, employees are able to request leave approval, check leave accruals and balances, and view up to two years of leave history. Supervisors of employees receive leave requests via e-mail and are able to view employee's leave balances and history before approving or denying leave requests.

eLeave, a web-based solution that provides online management of employee's leave, works with the Human Resources mainframe leave system. The eLeave solution uses your existing e-mail system such as GroupWise, Microsoft Exchange or Outlook, and works wherever there is Internet access.

Version 2.0 of eLeave was released October 8, 2003. Some of the new enhancements include:

- New Leave Information Added (COMP and Holiday Comp)
- More Detailed Information in the Email Confirmation
- Scrolling Message Marquee on the Main Menu
- Leave Reports by Employee Name
- Three Month Calendar

eLeave Users



The number of users of the eLeave system has increased from 2,100 last fiscal year to 4,800 this fiscal year. Customer usage has increased from 3 state agencies to 15 state agencies.

eLeave

The eLeave system allows employees to request leave approval, check leave accruals and balances, and view up to two years of leave history.

DATA CENTER SERVICES

...Providing High Capacity Mainframe Processing

...Offering a State-of-the-Art Output Management System

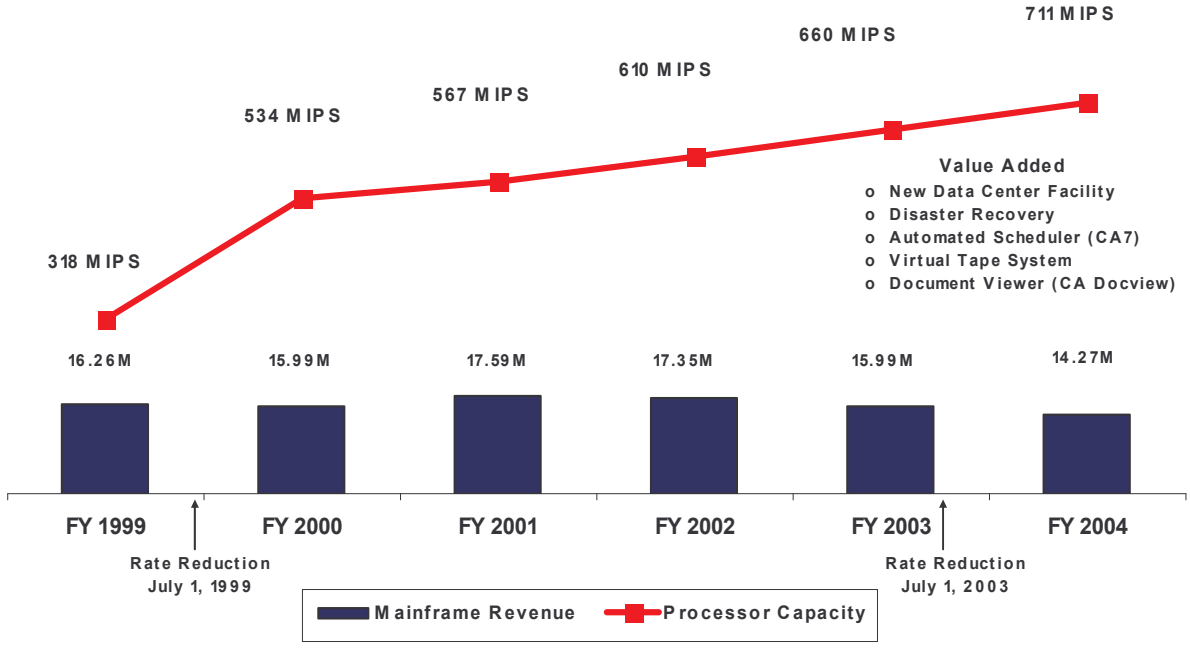
...Strengthening Other Platforms

The Data Center continues to upgrade the mainframe systems through capacity and service enhancements. The Data Center currently provides an infrastructure that includes over 711 MIPS (million instructions per second) of mainframe computer processing from two large mainframe processors, eight terabytes of external storage, a tape library of approximately 100,000 tapes, a virtual tape system, 25 Unix processors, and 43 NT and Novell servers. This **shared infrastructure** supports many of the needs of the 54 agencies that utilize the State's consolidated data center.

Web-enabling mainframe legacy systems have continued with ODBC/JDBC drivers acquired or enhanced for DB2, ADABAS and IDMS. Hosting for Java (Web) applications is provided with connectivity to the mainframe databases. The actuate report server that integrates with web applications is also provided.

CIO Mainframe Operations costs are 3% less than workload peer group (private sector) and 18.8% less than government sector peer group.

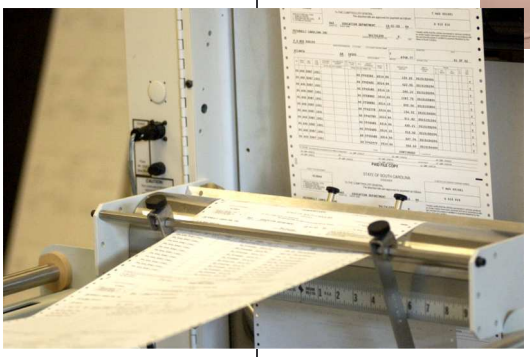
Growth of Mainframe Computing Capacity VS. Growth of Mainframe Revenue



Output Management Services

The CIO's output management facility is operational and provides a full range of document services from online document viewing to the delivery of the document to State agencies and to the United States Postal Service.

The online document viewing tool, DocView, delivers a report or document via a Web browser or a mainframe time sharing option (TSO) and allows an instant view of the report from your mainframe application. Specific pages from a report can be selected to print to a network-attached printer. DocView allows electronic indexing and storage of reports for later retrieval.



Preprinted forms can be replaced with electronic forms with both one-sided and two-sided printing available. Print on demand is also an option which would eliminate the need to procure and store large quantities of expensive custom-designed forms.

High-speed laser printing provides a high quality document at a low cost. Magnetic Ink Character Recognition (MICR) printing is an option for creating negotiable documents such as checks.

The document finishing capability allows the CIO to seal individual documents, in addition to folding and inserting multiple pages into an individual document, to be inserted into an envelope. Postal addresses can be validated. Postage rate discounting and manifest creation for delivery to the U. S. Postal Service is provided.

There are many cost savings examples from customers using the output management system. One agency, whose business case was to reduce printing cost, did so by migrating their production print work to DocView. During the last quarter of 2004, they reduced their monthly billing by approximately 69%. The agency was spending an average of $1,000 per month on printing costs. With migration to DocView, the agency billing charge is $40 per month.

Another agency saved time and money by having a form redesigned using the output management system. The agency was using a custom-designed form that required four signatures and two-color printing. The form was redesigned to a standard sheet and the four signatures were scanned. The signatures are printed as each document is created.

Using CIO's Output Management System has enabled one state agency to reduce their monthly printing costs from $1,000.00 per month to $40.00 per month.

Storage Area Network

The CIO operates a high performance, high availability storage area network (SAN). The SAN offers many additional benefits such as redundant paths to SAN data, load balancing across redundant paths, and Internet Small Computer System Interface (iSCSI) connectivity to accommodate remote host connectivity. To accommodate the increased demand for storage, the SAN continues to be populated as individual server storage is migrated from local server storage.

Applications are being researched to enable others to replicate agency-based data from their own servers or SAN to the CIO SAN for off-site data storage through the network.

Web Site Hosting

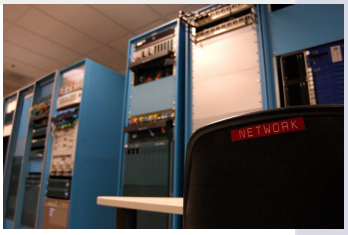
Web site hosting is provided for over 40 agencies and municipalities by the CIO. Two of the industry leading hosting environments, Unix-based Apache Web Server and Microsoft-based Internet Information Server, are implemented in the Data Center.

Disaster Recovery and Business Continuity

The CIO's disaster recovery and business continuity plan is reviewed quarterly and refined for all mainframe systems. Semi-annual testing is performed to verify the recovery plan and to assure compliance with Federal guidelines. The recovery of mainframe services and mainframe IP connectivity within 72 hours of a disaster via Sungard's remote facility in Philadelphia, Pennsylvania, is the major focus of disaster recovery.

Research is being conducted with disaster recovery providers and private industry user groups on concepts and services for the purpose of providing disaster recovery for Unix, Linux, and Windows based servers.

The CIO offers remote server backup support to the storage area network.



Support for Browser-Based Processing

To improve delivery of information to the end user, the CIO has a shared infrastructure in place to support browser-based applications development. Utilizing the WebSphere Java Application server, applications can be supported in a shared Unix server environment. This shared environment has allowed state agencies to web enable legacy systems using IDMS, DB2, and Adabase databases.

The shared infrastructure supports new applications running on Windows servers (such as Delphi) or on Linux servers using DB2-Unix. Support for Microsoft ASP.NET applications sharing a prescriptive architecture is being developed.

The shared infrastructure environment leverages the benefits of automated site backups, automated job scheduling, and many features of the output management facility.

WebSphere – Java Applications

The original development platform for web applications, HAHT, is no longer supported. A number of HAHT applications are being migrated to run on the WebSphere platform, now a State standard for Java applications development. Some of these applications include eLeave, eTraining, State telephone directory, and voter district inquiry.

WebSphere. software

Microsoft .net

Java Sun Microsystems

Microsoft .Net Applications

The CIO is in the planning process of implementing a Microsoft .Net applications hosting environment. This shared infrastructure will allow customers to run their applications in a consistent, reliable, and cost effective environment. The Microsoft .Net solution will afford our customers time to focus on the business functionality of the applications rather than the operational aspects such as upgrades, maintenance, and backups.

Microsoft .Net is a set of software technologies that connects information, people, systems, and devices. It enables a high level of software integration through the use of Web services from small, discrete, building-block applications that connect to each other as well as to other, larger applications over the Internet.

Today, using the Microsoft .Net application, the CIO delivers the "Employee Newsletter" and the "Customer Services Newsletter." The newsletter for employees of the State Budget and Control Board, "Across the Board," is also delivered using Microsoft .Net.

Enterprise Backup Solution

The CIO's Enterprise Back-up solution is comprised of IBM's Tivoli Storage Manager and an IBM 3494 Automated Tape Library that is capable of storing up to 40 terabytes of data. Supported platforms are Microsoft, Novell, or Unix/Linux system. The automated tape library would allow an agency to back-up data off-site in real time through the network to the State Data Center. At present, approximately 38 servers are backed up nightly.

APPLICATIONS DEVELOPMENT SERVICES

Information Systems Development Methodology

An Information Systems Development Methodology (ISDM) was developed to provide a well-documented process to insure that our customers receive the services that they request by facilitating the applications development process and enhancing communications with our customers throughout the applications development life cycle. The life cycle includes the design, coding, testing, implementation, maintenance, retirement and/or transition of the applications.

The ISDM structures the development process and gives the project team a common plan to follow. The ISDM establishes required documents and other deliverables and seeks to establish standardized methodologies. The ISDM provides a detailed description of roles and responsibilities with respect to the development process. The process is flexible enough to accommodate a variety of projects but specific enough to provide consistency across projects.

There are three possible tracks for ISDM projects: Full ISDM Process, Rapid Development Process, and Maintenance Process. It is up to the discretion of the Applications Manager or Review Team who receives the initial Service request to determine which track the request should follow.

Some of the benefits our customers should receive as a result of the ISDM process are:

- An increase in the probability that the final product will meet the customer's needs
- Consistency among applications
- Reduction in duplication of development effort
- Easier tracking of the development process by having one common document as a guide for application developers
- Mitigate the effect of personnel turnover with a defined documented process
- Easier application maintenance with system documentation available
- Improved methods, techniques, and technologies that can become standards

The ISDM is a dynamic process that will grow and change as the needs of the CIO and our customers grow and change.

Examples of Efficiency Projects Developed for our Customers

- A web application for State Fleet Management to permit entry of odometer readings which has allowed for decreased postal charges and has reduced the amount of man hours required for data entry
- Automated IDT batch processing for GAFRS which reduces errors by eliminating the need for manual data entry
- Modification of the legacy Voter Registration System for the State Election Commission to meet the requirements of the Help America Vote Act (HAVA)
- A new web application for the State Election Commission to show the public their absentee and provisional ballot status as part of the HAVA requirements. Statewide ballot totals from all 46 counties for the February Republican and the June Democratic and Republican primaries were delivered via the Web for public viewing

Providing
...Automated Software Systems
& ...Efficiencies for our Customers

PROVIDING...
The State's Communications Infrastructure
&
State-of-the-Art Network Connectivity

NETWORK SERVICES

Internet 2

The CIO application to the Sponsored Education Group Participant (SEGP) was recently accepted for extending Internet 2 access to K-12 and other education entities. Internet 2 is a method that provides faster connectivity to the Internet for institutions of higher learning. In 2001, the CIO partnered with the three research institutions: Clemson, the Medical University of South Carolina, and the University of South Carolina, to submit a SEGP application on behalf of the State's technical college system and K-12 network for access to Internet 2. South Carolina joins 32 other states in the U.S. with a SEGP.

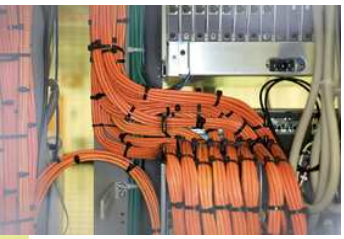
The SEGP program allows expanded access to Internet 2 for state and regional education networks through sponsorship by Internet 2 university members. State and regional networks may include nonprofit and for-profit educational institutions, museums, libraries, art galleries, or hospitals that require routine collaborations on instruction, clinical and/or research projects, services and content with Internet 2 members or with other sponsored participants. Service access should be available to the technical schools and K-12 community during the last quarter of 2004.

K-12 Network Expansion

The initial stage of the K-12 high speed wide area network expansion initiative is complete and the CIO is preparing to move forward with further expansion. In FY2003, the CIO began the process of expanding high speed wide area networks between schools and district offices. Thirteen school districts participated in the initial stage. Of the 13, six installed wireless Ethernet services, five installed wired Ethernet services, and two found it necessary to combine wireless and wired services to complete their network.

The funding model used for the network expansion involved a shared-cost strategy of FY2004-2005 E-rate funding and funding from the participating district. The same funding model will be used to continue the network expansion.

Multi-Protocol Label Switching



The CIO continually improves network performance and just recently enabled the State backbone network to support Multiprotocol Label Switching (MPLS) for one agency. The use of MPLS eliminates problems with traffic engineering, Virtual Privacy Networks (VPNs), Layer 2 transport, and any-to-any connectivity.

- Traffic Engineering - the ability to set the path traffic will take through the network and the ability to set performance characteristics for a class of traffic
- VPNs - using MPLS, service providers can create Internet protocol (IP) tunnels throughout their network to ensure separation of traffic
- Layer 2 Transport - service providers will be able to carry Layer 2 services including Ethernet, Frame Relay and Asynchronous Transfer Mode (ATM) over an IP/MPLS core
- Any-to-Any Connectivity - without the implementation of Switched Virtual Circuits (SVC), peer-to-peer has never been achieved with ATM without creating a large number of permanent virtual circuits (PVCs)
- MPLS solves Any-to-Any with MPLS VPN - each organization is a pure meshed private virtual network

Video Over Internet Protocol (IP)

Video over Internet Protocol (IP Video) is a multipoint or point-to-point network that uses continuous presence and voice activated switching to facilitate real-time electronic exchange of voice, video, text, and high resolution graphics. IP Video provides an alternative to travel and is becoming a communication means to increase productivity and decrease costs. A state contract to provide services for H.323 IP video, now the industry standard, was recently awarded by the CIO.

Various state agencies and educational institutions use IP Video to conduct ongoing collaborative planning sessions, instructional classroom training, and administrative meetings. Among those migrating to IP Video in FY2004 were the South Carolina Technical College System and the Department of Health and Environmental Control. The CIO provided support to establish and maintain an infrastructure that enabled H.323 IP video which resulted in an upgrade of hardware and ATM local access connections to connect to the State Wide Area Network at a minimum of 3MBPS.

To improve the quality, security, and redundancy of Internet video traffic over the State WAN, the CIO's efforts began with the establishment of Quality of Service (QoS) parameters to prioritize the video traffic, and collaboration with individual colleges and the main DHEC site to address firewall issues continues. Later, the capability to route traffic to different Internet Service Providers was also implemented.

Some of the advantages of using of IP video include:

- Maximizes the use of existing network infrastructure
- Allows infrastructure sharing
- Allows remote management and upgrade

Various state agencies and educational institutions use IP Video to conduct ongoing collaborative planning sessions, instructional classroom training, and administrative meetings.

- Integrates with Web/Presentation environments
- Eliminates the cost of ISDN lines
- Allows system mobility (systems may be moved wherever IP connections are supported)
- Allows bandwidth management which leads to less "congestion" on the network
- Provides a steadier compression of the video signal, thus smoother video viewing

Agencies that currently use H.320/ISDN should be aware that Bell South has discontinued H.320 video conferencing support for NEW locations, and the current contract covering existing locations expires May 31, 2006. Agencies can begin planning now to take advantage of H.323 contracts for hardware and bridging support going forward.

Web Network Management

The CIO implemented a Web Network Management (WebNM) tool in November 2003. The product is a Web-based tool that monitors our information technology infrastructure: network nodes, servers, applications, and Simple Network Management Protocol (SNMP) devices. It is designed to help us forecast network bandwidth and applications needs. Some of the features include:

- 24x7 monitoring of the CIO supported infrastructure with the ability to identify, diagnose, and resolve troubles before services become affected
- Alarm management which provides alarm notification and monitoring for network devices and mission critical applications. With the root cause analysis feature, rollup alarms send only one notification instead of fifty from one downed device
- Performance reports that can be created for devices throughout the network; i.e., Internet traffic, WAN circuits, CPUs, memory, hard drives, routers, switches, services, etc.
- Event and Syslog Management that centralizes events from servers, routers, firewalls, telephone systems, etc., and permits policy creation that triggers notification when certain events occur
- Real time statistics to view the performance of specific SNMP equipment
- Administration that is Web based, permitting updates from anywhere via a Web browser

Palmetto 800 MHz System

The Palmetto 800 Statewide 800 MHz Radio System (System) allows all state government agencies and local public safety entities to communicate with each other within the same 800 MHz radio band across South Carolina. Sixty-three transmitter sites support the statewide radio communication system which was completed in June 2003. The CIO secured grant funding for all 46 county sheriff's offices and 144 municipal police departments to allow them to participate in the Palmetto 800 MHz statewide system.

In 2003 /2004, an additional Counter Terrorism Grant allowed the CIO to provide an 800 MHz radio on the statewide system to each county Emergency Operations Center and the primary 911 Center in each county in South Carolina. The System expedites the response of users in every situation from daily operations to natural disasters.

The interoperability and range efficiency of the System were recently put to the test in Georgetown County during Hurricane Charley and tropical storm Gaston. During this emergency, the system performed flawlessly,

providing communications when other radios and cell phones were not working.

The over 16,200 current system users represent in excess of 23 State government agencies, 85 county government agencies, 96 municipal agencies, 8 power utilities, 5 federal agencies and 33 agencies in Augusta-Richmond County, Georgia. Seventy percent of the sheriff's offices in South Carolina have 800 MHz radios with access to the statewide system. The statewide system continues to grow at an annual rate of over 2,000 new users each year.

SLED Wide Area Network

The CIO assisted the South Carolina Law Enforcement Division's (SLED's) Wide Area Network (WAN) users with conversion to a shared high-speed communications network. Previously a security concern, technological advances now permit secure shared lines and data.

SLED is encouraging the use of shared high-speed lines between law enforcement user agencies and SLED where multiple lines may exist within a single agency and among law enforcement agencies within a county. In addition, SLED anticipates that the migration to ATM connectivity will allow non-criminal justice county governmental entities to share high speed communications lines as an economical means to more efficient government and a more secure community.

VOICE SERVICES

...Providing the Latest In Telecommunications Services

Telephone Switch (S8700) Upgrade in Charleston

The CIO recently upgraded its Avaya DEFINTY G3r platform used by MUSC to the S8700 platform. The upgrade split the existing cabinets between two servers located in separate buildings connected via the local CIO LAN. In the event one server is down, 50 percent of the stations throughout the hospital are still operational on the other server. Now, any peripheral equipment such as voice mail or call management systems are all LAN connected.

The CIO successfully implemented the S8700 upgrade as part of MUSC's business continuity plan to ensure ongoing patient care in the event of a disaster that could cripple telecommunications. The upgrade involved over 11,500 stations and is part of the CIO's strategic plan of converting from the traditional Time Division Multiplexing (TDM) voice Private Branch Exchange (PBX) to the Voice over IP platform that will merge voice and data networking.

COMMUNICATIONS

Staying Connected With Our Customers

The CIO knows that to deliver what our customers want, we must listen to them. The CIO knows that our customers want to stay informed about the latest technological changes and the services the CIO has to offer. Here are some of the ways the CIO listens to customers and keeps customers informed.

User Meetings

To foster customer involvement and maintain direct communications with our customers, the CIO holds monthly meetings, and more if needed, with our customers. These meetings serve as a forum for the customer and the CIO to share plans (both operational and strategic), address issues, and discuss active projects.

Agenda topics are presented by the agency and the CIO. Examples of topics discussed during the user meetings are mainframe operations, help desk, network, and telecommunications.

Customer Newsletter

Don't delete the GroupWise e-mail notification of the CIO's customer newsletter! The CIO publishes a newsletter every other month to keep our customers informed of the status of technical initiatives, changes to services, changes in rates, and other subjects of interest.

The newsletter system integrates with the State's directory services application that provides the most up-to-date subscriber email addresses.

Web Site

To fulfill our goal of making it easier for our customers to find what they need quickly, the CIO gave our Website a new look and feel. The Website offers a wealth of information about the CIO, past and present, and is an excellent resource for our customers to learn about the CIO and our services. Take a look and visit it often at **www.cio.sc.gov**.





CIO OPEN HOUSE

The CIO's first "Open House," held on July 21, was an overwhelming success. The seminars, booths, and tours were conducted in an effort to keep our customers informed and connected. The 168 participants who attended the open house represented 47 State agencies.

Seminar topics included: Data Network Overview; Voice Services; Overview Help Desk; Networking over Twisted Pair Technology; CWOF; Networking over Twisted Pair Technology; State Portal; Cost Savings; Strategic Plan; Vendor Management; SAN; Information Security Risk Evaluation; Output Management; Backup and Recovery Methodologies; eLeave; Electronic Newsletters; Develop Security Plans; Project Management; SCEA/AOC; SCEIS; Protest Proof Procurement; Procurement Training; Disaster Recovery; and Web NM.

If you missed the open house this year, you'll have another chance. The CIO is pleased to announce that the "Open House" will be an annual event.

Several offices within the CIO designed display booths to provide participants with additional information and brochures about CIO services and activities.

Tours of the State Data Center were offered at regular intervals to give participants the opportunity to observe the output management system, the mainframe processing, the server farm, the tape library, the backup generators, and other components of the State Data Center.

If you missed the open house this year, you'll have another chance. The CIO is pleased to announce that the "Open House" will be an annual event.

► Conferences and Professional Organization Involvement

Membership and participation in professional organizations provide opportunities for professional development, information sharing, and networking with peers. The result is more informed individuals which equals a more informed organization. The CIO is active in many IT and other work-related professional organizations that keep us current in technology and related fields. The following list is the major organizations:

► South Carolina Information Technology Director's Association (SCITDA)

The CIO staff participates in the annual SCITDA Conference to update members on new technologies, policies, and other IT issues through presentations and networking.

► South Carolina Association of Governmental Purchasing Officials

The annual conference of the SC Association of Governmental Purchasing Officials is an opportunity for state procurement officials to experience what's new in technology and to network with other purchasing officials. Staff from the CIO Information Technology Management Office also conducts workshop sessions to share the latest in technology contracts and purchasing initiatives.

► South Carolina Information Network (SCiNET)

SCiNET's membership includes one representative from each agency as designated by the agency's Information Technology officer and is called the SCiNET Users Council. The mission of the SCiNET User Council is to advise the CIO on utilization of network technology and the network technology of agencies and to provide a forum for exchange of information and discussion of the needs of network technology activities in government and education in the State of South Carolina.

► National Association of State Telecommunications Directors (NASTD)

The CIO staff is active in NASTD, the national association for telecommunications and technology professionals serving state government, whose purpose is to advance and promote the effective use of telecommunications technology and services to improve the operation of state government. NASTD represents telecommunications and technology professionals from the 50 states, divided into four regions and the private sector. The Deputy Director for the CIO Data Center Operations serves as the Treasurer for NASTD.

► South Carolina Management Information Services (SC GMIS)

The CIO is an active member of SC GMIS, the first and only South Carolina organization that brings together the information technology professional leaders in the public sector. The purpose of GMIS is to provide a forum for the exchange of ideas, information, and techniques and to foster enhancement in hardware, software and communication developments as they relate to government activities. GMIS focuses solely on sharing situations related to government information processing. Included are cities, counties, school districts, state agencies, higher education, regional libraries, and other public entities.

At the annual Leadership Summit in May 2004, the CIO received two of the organization's annual awards: the "Champion Agency" award and the "Ambassador" award. These awards recognize members and organizations for their support and contributions to SC GMIS over the past year.

► National Association of State Chief Information Officers (NASCIO)

The CIO is a member of NASCIO, whose mission is to foster government excellence through quality business practices, information management, and technology policy. NASCIO represents state chief information officers and information resource executives and managers from the 50 states, six U. S. territories, and the District of Columbia. State members are senior officials from any of the three branches of state government who have executive-level and statewide responsibility for information resource management.

COST Effective & Efficient

CIO Outperforms Peers – Third Party Analysis of Major Services

The CIO completed a "Rapid Assessment for Total IT Expenditures" that was administered by the Gartner Group. This assessment provided a "health check" for our information technology systems and a high level look at our environment that covered a twelve-month period, July 1, 2003 through June 30, 2004.

Functional Services Analyzed

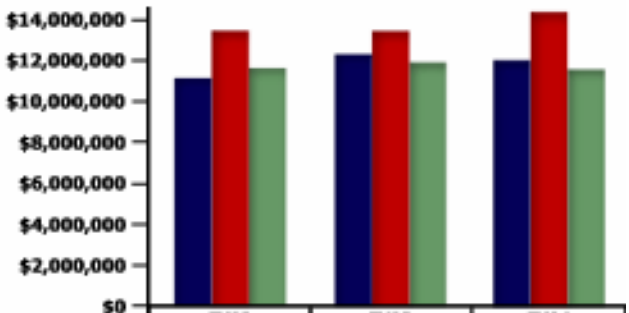
Three functional areas of service were evaluated: Mainframe Data Center, Local Voice, and Long Distance Voice. These three service areas are among those that comprise the majority of our business.

Functional Area	Key Metric
Mainframe Data Center	Cost per MIPS
Voice, Local	Cost per extension
Voice, Long Distance	Cost per minute

For each of the three functional areas analyzed, a composite peer group was selected by Gartner for comparison purposes. The enterprises selected had key workload characteristics similar to the CIO. Each functional area had a different workload peer group as well as a comparison to a public administration (government) group. Additionally, a year-over-year comparison was performed for those areas included in last year's assessment.

Cost of Data Center Mainframe Operations State Data Center Compared to Peer Groups

Expense Components Include: Occupancy, Personnel, Hardware, Software and Disaster Recovery



	FY02	FY03	FY04
Workload Peer Group	$11,008,536	$12,134,100	$11,826,774
Government Peer Group	$13,184,724	$13,185,480	$14,126,859
State Data Center	$11,440,128	$11,745,360	$11,468,288

Average Monthly Charge For CIO Provided Local PBX Service

The Division of the State CIO has reduced the costs of local telephone services three times during the past five years.

Average Cost* Per Minute For CIO Provided Long Distance Service

* Does not include calling card or 800 service

The Division of the State CIO has reduced the cost of long distance services five times during the past seven fiscal years.

OVERALL OBSERVATIONS

- When compared to the government peer group, our spending for the services studied was 47% less.
- From a cost efficiency perspective, the CIO is again ranked "Best in Class" in Voice local services in 2004.
- The Data Center cost per MIPS is 3% lower than the workload peer group and 18.8% lower than the public administration group.
- The Long Distance cost per minute was within one percent of the workload peer group and 19.2% lower than the industry peer group.
- The Local voice services cost per extension is 62% lower than the workload peer group and 50.3% lower than the industry peer group.

►2004 RATE REDUCTIONS

Mainframe Central Processing Unit Rate Reduction

Rates for mainframe services were reduced during FY2004 as indicated by the chart that follows.

Service Description	Old Rate	1st Announced Reduction	New Rate
CPU A	$1,875.00	$1,652.00 per hour	**$1,534.00 per hour**
CPU B	$615.00	$542.00 per hour	**$503.00 per hour**

Local Voice Services Rate Reductions

A PBX rate reduction was effective July 1, 2003.

Service	Old Rate	New Rate
Analog Phone Line	$15.16	**$12.55**
Digital Phone Line	$19.23	**$15.40**
Voice Mail, Standard	$6.00	**$3.50**
Voice Mail, Extended	$8.00	**$4.50**

Long Distance Services Rate Reductions

The long distance services rates were lower effective July 1, 2004. The new rates listed below represent reductions of over 20% over previous long distance rates. The reduction was made possible through successful contract negotiations.

Type of Service	Current Rate (per minute)	New Rate (per minute)
Agency Office Locations with Dedicated Connections	$.05	**$.04**
Agency Field Office Locations with Switched Connections	$.068	**$.05**
Calling Card	$.10 plus $.25 per call	**$.09**
Dedicated 800 Access	$.055	**$.035**
Switched 800 Access	$.08	**$.06**



Conclusion

We look forward to another successful year of partnership.

As technology inevitably changes, the CIO strives to anticipate and respond to those changes with new and upgraded services for you, our customer. We continuously search for ways to improve services for you through efficiency and effective business processes.

We relied on an inclusive collaborative relationship with you to make FY2004 a successful year. Sustaining the kind of progressive information technology services that we can then deliver to the citizens of the State of South Carolina will require continued collaboration.

We look forward to another successful year of partnership.